ASPHOTA WASTI

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PROFESSIONAL EXPERIENCE

Graduate Research Assistant at University of Cincinnati   **2017-Present**
Climate Change Risk Assessment of the Upper Arun Project in Nepal
The World Bank Group, University of Cincinnati, CSPDR
> Assessed the climate risks (changes in mean, extremes, and effect on daily operation) to a proposed
> hydropower project using the International Hydropower Association Climate Resilience Guide.

Visualization of Uncertainty of Forecast Component Parts
National Weather Service- NOAA and University of Cincinnati
> Proposed techniques to improve real-time flood forecast by partitioning the uncertainties using
> Analysis of Variance Technique and visualizing the results using heatmaps and bar charts.

Research Trainee at the National Water Centre   **2021**
In collaboration developed a framework to assess the topographic sensitivity of a coastal flooding model
for sites from the east coasts of the United States using models that solves shallow water equations.

Short Term Consultant to the World Bank   **2019**
Independent Consulting Job collecting suspended sediment samples from hydropower projects in Nepal and India

EDUCATION

PhD Environmental Engineering, University of Cincinnati   **2022 May**
MS Environmental Engineering, University of Cincinnati   **2019**
BE Civil Engineering, Tribhuvan University, Nepal   **2015**

Specialization: Hydrologic Modelling, Optimization, Systems Analysis, GIS, Probability and Statistics, Time
Series, Spatial Temporal Data Mining, Deep Learning Classification Trees, Spatial Data Science

SKILLSET

Downloading and processing global gridded datasets and **climate projection- NetCDF files** (R, Python),
Data cleaning, statistical analysis, **stochastic weather generation,** MCMC (Supercomputer, R, Python),
Geospatial analysis, watershed delineation, **map generation**, and visualization (GIS), **Hydrologic
modeling,** hydraulic modeling, and reservoir routing (MATLAB, Python, HEC products), **Storm surge
modeling** (GeoCLAW)

Professional Fluency in **English** | Conversational in **French** (DELF A2 Certified)

PEER- REVIEWED PUBLICATIONS

1. Wasti, A., Ray, P., Wi, S., Folch, C., Ubierna, M., & Karki, P. (2022). Climate change and the hydropower sector: A global review. Wiley Interdisciplinary Reviews: Climate Change, e757. https://doi. org/10.1002/wcc.757
2. Behzadi, F., Wasti, A., Steissberg, T. E., & Ray, P. A. (2022). Vulnerability assessment of drinking water supply under climate uncertainty using a river contamination risk (RANK) model. Environmental Modelling & Software, 105294.
3. Zhu, Z., Wasti, A., Schade, T., & Ray, P. A. (2021). Techniques to Evaluate the Modifier Process of National Weather Service Flood Forecasts. Journal of Hydrology X
4. Behzadi F, Wasti A, Rahat SH, Tracy JN, Ray PA (2020) Analysis of the climate change signal in Mexico City given disagreeing data sources and scattered projections 27:100662. doi: 0.1016/j.ejrh.2019.100662
5. Rahat, S., Steinschneider S., Kucharski, J., Arnold, W., Olzewski, J., Walker, W., Maendly, R., Wasti, A., & Ray, P. A. (2022). Characterizing Hydrologic Vulnerability under Non-Stationary Climate and Antecedent Conditions using a Process-Informed Stochastic Weather Generator. Journal of Water Resources Planning and Management. Journal of Water Resources Planning and Management (In Publication)